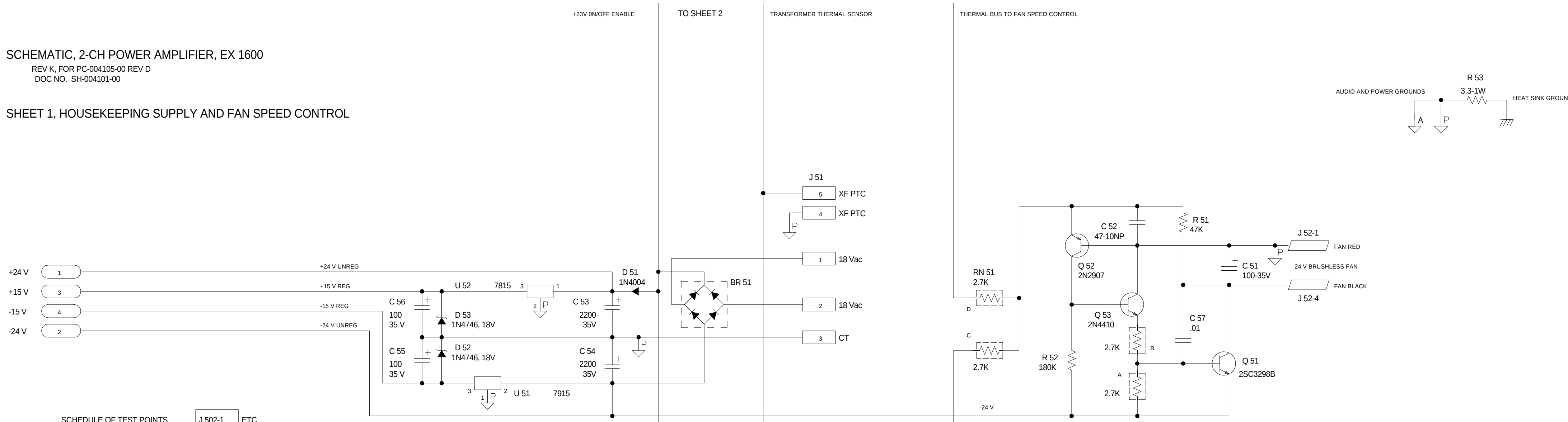
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	J	REVISED PER ECO 2371 MP (EFF. 7-28-94)	7-20-94	SGM
	K	REVISED PER ECO 2560 WR (EFF. 3-5-95)		

SCHEMATIC, 2-CH POWER AMPLIFIER, EX 1600

REV K, FOR PC-004105-00 REV D
DOC NO. SH-004101-00

SHEET 1, HOUSEKEEPING SUPPLY AND FAN SPEED CONTROL



SCHEDULE OF TEST POINTS J 502-1 ETC

CH-1	CH 2	
J 502-1	J 602-1	NEGATIVE LIMITING VOLTAGE
J 502-2	J 602-2	POSITIVE LIMITING VOLTAGE
J 502-3	J 602-3	SWITCHING THRESHOLD REFERENCE VOLTAGE
J 502-4	J 602-4	AMPLIFIER LOOP OPAMP OUTPUT
J 502-6	J 602-6	SWITCHED POS AMPLIFIER RAIL--HIGH VOLTAGE
J 502-8	J 602-8	SWITCHED NEG AMPLIFIER RAIL--HIGH VOLTAGE

PART NUMBERING SCHEDULE FOR PCBS USED IN EX-1600:

PCB NUMBER	DESCRIPTION	CH 1 PARTS	CH 2 PARTS	PARTS IN COMMON
PC-004001-00	DISPLAY PCB	101-199	201-299	1-29
PC-004002-00	INPUT PCB	301-399	401-499	31-49
PC-004105-00	AMP PCB	501-599	601-699	51-69
PC-004105-00	SPKR PCB	701-799	801-899	71-99
PC-004105-00	AC PCB	901-UP (SAME BOARD FOR CH 1, CH2)		

NOTES.
1. ALL RESISTORS 1/4-WATT, 5% UNLESS NOTED.
2. ALL CAPACITORS 100V UNLESS NOTED.
TOLERANCE 20% FOR ELECTROLYTIC TYPES, 10% ON OTHER TYPES.
3. BRIDGE RECTIFIER BR 51, 1.5A, 100V.
⚠ 4. R 598, 698 IS POSITIVE TEMPERATURE COEFFICIENT RESISTOR MOUNTED TO HEAT SINK.
RESISTANCE 100 OHM COLD, RISING AT 55 C. QSC P/N RE-000006-PT
⚠ 5. Q 503, 504, 603, 604 ARE SWITCHING FETS. QSC P/N QD-000031-QD.
125 W, 60 V MINIMUM, ON-RESISTANCE 0.030 OHMS MAX.
⚠ 6. ZENERS D 503, 504, 603, 604 MARKED 7.5 V TESTED FOR LOW LEAKAGE, QSC P/N QD-0007.5-ZT.
⚠ 7. ZENERS D 509, 513, 609, 613, 6.2V-500mW, TESTED FOR LOW LEAKAGE, QSC P/N QD-000024-QD.
⚠ 8. PARTS MARKED WITH TRIANGLE ⚠ MUST BE REPLACED WITH EXACT TYPE ONLY.
9. PARTS ENCLOSED WITHIN DOTTED OUTLINE HAVE VOLTAGES GREATER THAN 42V.

+23V ON/OFF ENABLE | TO SHEET 3 | TRANSFORMER THERMAL SENSOR | THERMAL BUS TO FAN SPEED CONTROL

LAST USED REF. DESIGN.

BR 51, BR 502, 602
C51 - 57, C534, 634
D51 - 53, D513, 613
F504, 604
J51, 52, J503, 603
K501, 601
L501, 601
Q51 - 53, Q510, 610
R51 - 53, R544, 644, R598, 698, R599, 699
RN51, RN502, 602
U51, 52, U506, 606
VR503, 603

NOTES: UNLESS OTHERWISE SPECIFIED

PARTS LIST

WP-004101-00	EX 1600
NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
DIMENSIONS PER ANSI Y14.5-1982
TOLERANCES ARE:
DECIMALS .xx ± | DECIMALS .xxx ± | ANGLES ±
DEBURR EDGES .XXX R MAX
MATERIAL
FINISH
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	PHQ	5-15-91
CHECKED	SGM	5-29-91
ISSUED		
CAD SEED FILE NO.		

QSC AUDIO PRODUCTS, INC.
COSTA MESA, CALIFORNIA

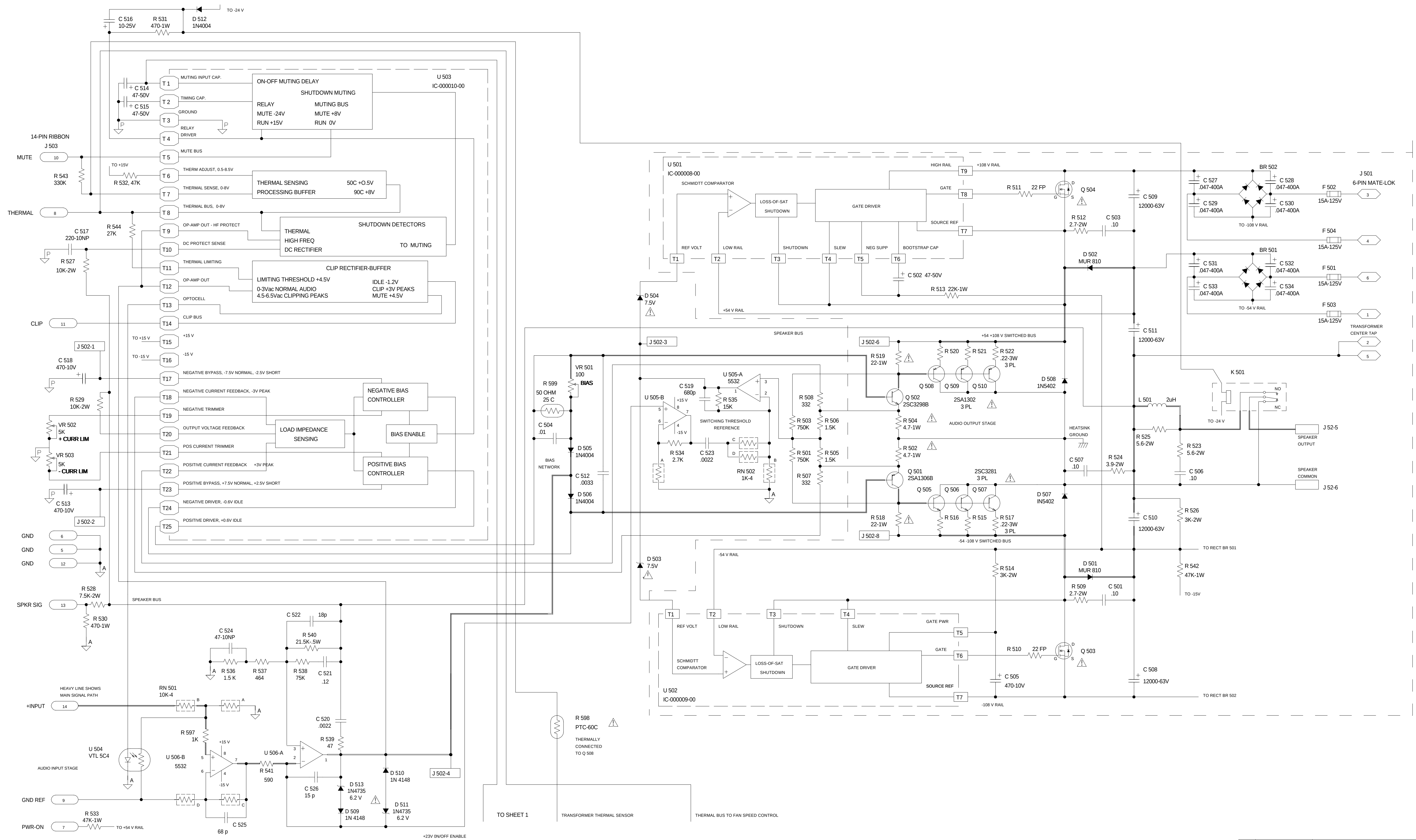
SCHEMATIC DIAGRAM
EX 1600

SIZE	FSCM NO.	DWG NO.	REV
D		SH-004101-00	K

SCALE NONE | CAD FILE NO. SH4101K1.FCD | SHEET 1 OF 3

DWG NO. SH-004101-00 | SH 1 | REV K

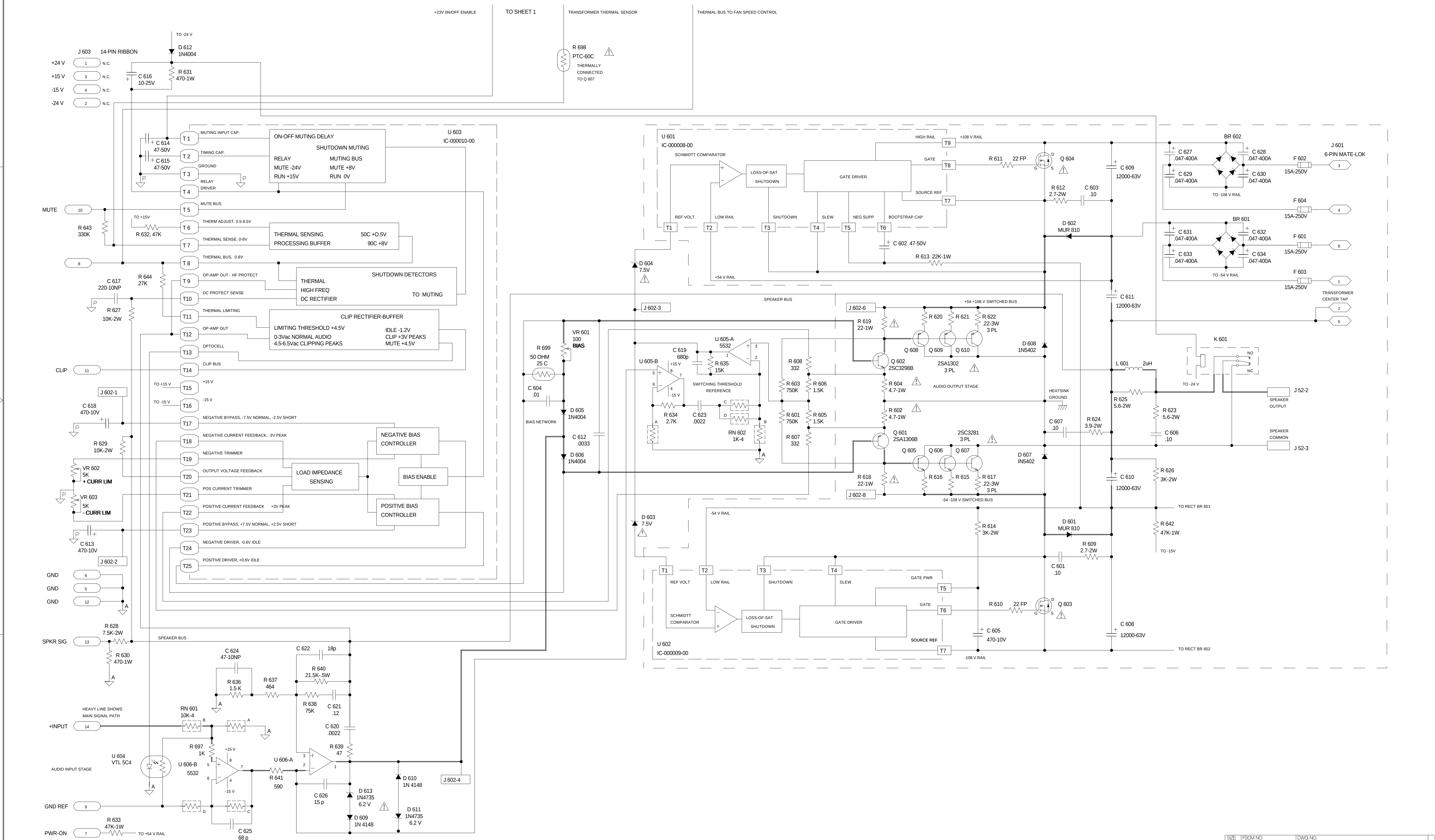
SCHEMATIC, EX-1600, SHEET 2, AMPLIFIER CHANNEL A



SIZE	FSCM NO.	DWG NO.	REV
D		SH-004101-00	K
SCALE	CAD FILE NO. SH4101K2.FCD	SHEET 2 OF 3	

DWG NO. SH-004101-00 SH 2 REV K

SCHEMATIC, EX-1600, SHEET 3, AMPLIFIER CHANNEL B



SIZE	FSCM NO.	DWG NO.	REV
D		SH-004101-00	K
SCALE	CAD FILE NO. SH4101K3.FCD	SHEET 3 OF 3	

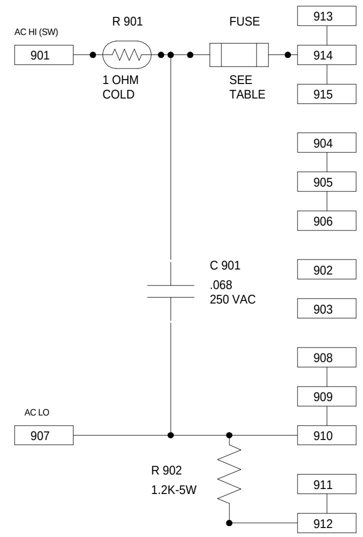
DWG NO. SH-004101-00 SH 3 REV K

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DWG NO.	SH	REV
XXXXXXXXXXX	X	X

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	X	XXXXXXXXXXXXXXXXXXXXXXXXXX		

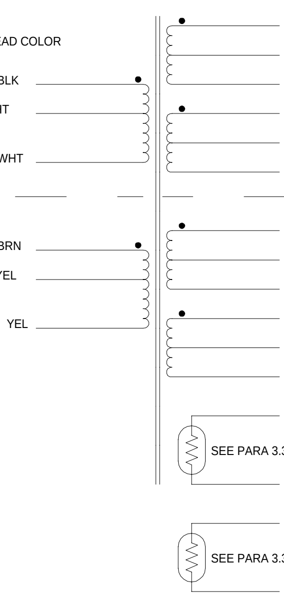


PC TERMS	230V	120V	100V
913	NC	FAN	NC
914	NC	120V	100V
915	120V	120V	100V
904	120V	NC	120V
905	O V	NC	120V
906	FAN	NC	FAN
902	100V	100V	NC
903	100V	100V	NC
908	NC	0 V	0 V
909	O V	0 V	0 V
910	THRM	THRM	THRM
911	THRM	THRM	THRM
912	FAN	FAN	FAN

FUSE VALUES

	230V	120V	100V
1600	15A	30A	30A
1250	12A	30A?	30A
800	12A	20A	20A
1500	15A	30A	30A
2000 2 CHANS PER CHAN.	12A	20A	20A

POWER TRANSFORMER XF-001510-00



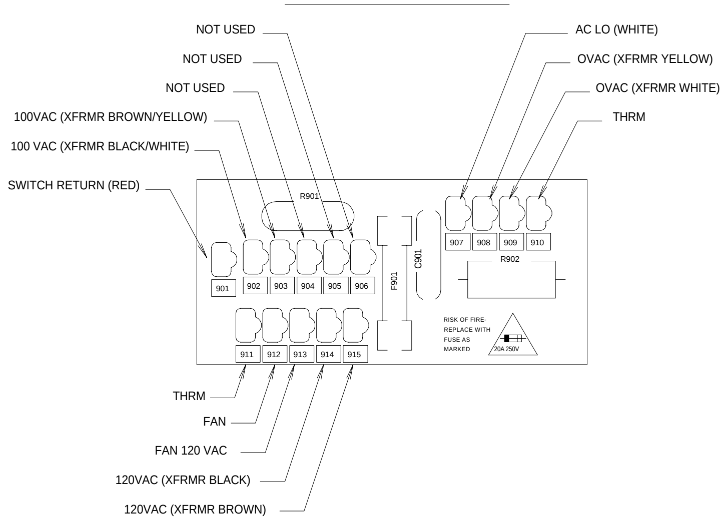
PRIMARY

TERM NO	AC VOLTS	LEAD COLOR
1	120 Vac	BLK
2	100 Vac	BLK/WHT
3	0 Vac	WHT
	(Coil on Leg One)	
	(Coil on Leg Two)	
4	120 Vac	BRN
5	100 Vac	BRN/YEL
6	0 Vac	YEL

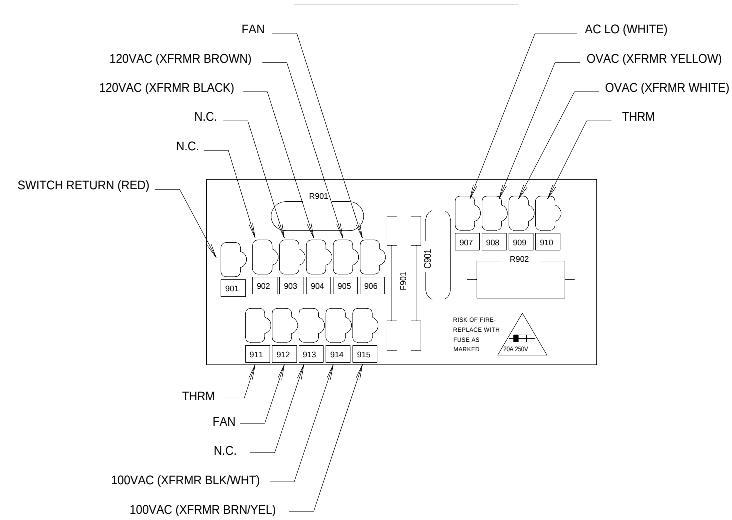
SECONDARY

LEAD COLOR	TERM NO
RED	7
ORG	8
BLU	9
WHT/RED	10
WHT/ORG	11
WHT/BLU	12
BLU	13
GRY	14
GRN	15
WHT/BLU	16
WHT/GRY	17
WHT/GRN	18
GRN/WHT	19
GRN/WHT	20
PURP/WHT	21
PURP/WHT	22

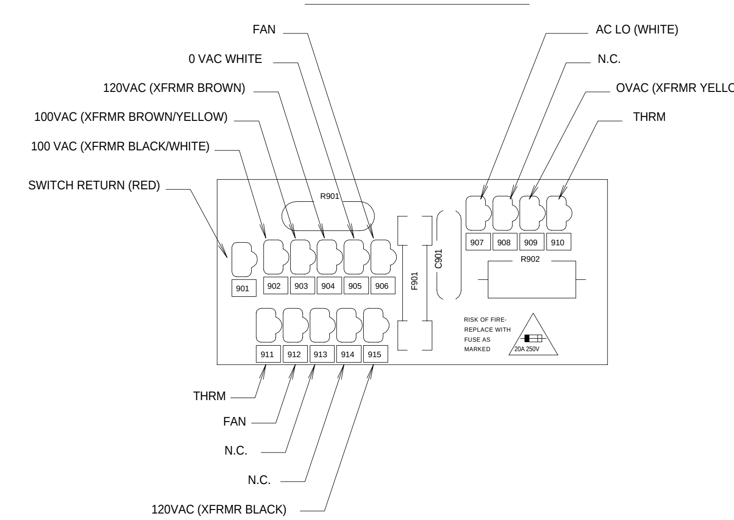
120 VOLT AC PCB WIRING



100 VOLT AC PCB WIRING



230 VOLT AC PCB WIRING



PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:

FRACTIONS	DECIMALS	ANGLES
+/-	.XX +/- .02	+/- O
	.XXX +/- .010	

MATERIAL

FINISH

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS	DATE
DRAWN NDP	4/29/91
CHECKED XXXX	XXXXXXXX
ISSUED XXXXX	XXXXXXXX

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COSTA MESA, CALIFORNIA

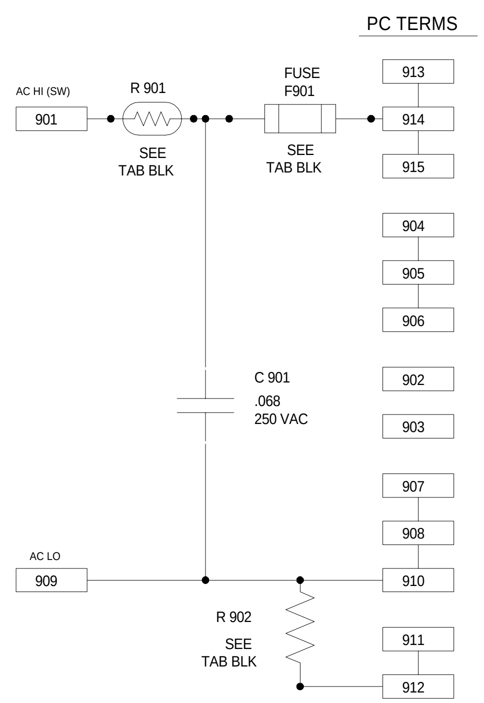
SCHEMATIC/WIRING DIAGRAM
EX/MX 2 SPACE AMPS

SIZE	FSCM NO.	DWG NO.	REV
D		SH-004103-00	1

SCALE NONE | SH4103.FCD | SHEET 1 OF 1

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	C	PROD RELEASE PER ECO 1846		



TABULATION BLOCK

MODEL (V)	FUSE F901	R 902	R 901
EX 800 (100V)	20A 250V		1.0 OHM 30 A
EX 800 (120V)	20A 250V		1.0 OHM 30 A
EX 800 (230V)	12A 250V		2.5 OHM 15 A
EX 1250 (100V)	20A 250V		1.0 OHM 30 A
EX 1250 (120V)	20A 250V		1.0 HOM 30 A
EX 1250 (230V)	12A 250V		2.5 OHM 15 A
EX 1600 (100V)	30A 125V		1.0 OHM 30 A
EX 1600 (120V)	30A 125V		1.0 OHM 30 A
EX 1600 (230V)	15A 250V		2.5 OHM 15 A
MX 1000a (100V)	20A 250V	1.2K 5W	1.0 OHM 30 A
MX 1000a (120V)	20A 250V	1.2K 5W	1.0 OHM 30 A
MX 1000a (230V)	12A 250V	1.2K 5W	2.5 OHM 15 A
MX 1500a (100V)	30A 125V	1.2K 5W	1.0 OHM 30 A
MX 1500a (120V)	30A 125V	1.2K 5W	1.0 OHM 30 A
MX 1500a (230V)	15A 250V	1.2K 5W	2.5 OHM 15 A

1. THIS DRAWING USED IN CONJUCTION WITH SCHEMATIC DIAGRAMS SH-004100-00, SH-004100-01, SH-004101-00, SH-004101-01, SH-004101-02, SH-001010-00, SH-001011-00, SH-001510-00, AND SH-001511-00

NOTES: UNLESS OTHERWISE SPECIFIED

PARTS LIST

NEXT ASSY	USED ON
PC-004103-00	EX/MXa 2 SP.

APPLICATION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. DIMENSIONS PER ANSI Y14.5-1982

TOLERANCES ARE: DECIMALS .XX ± DECIMALS .XXX ± ANGLES ±

DEBURR EDGES .XXX R MAX

MATERIAL

FINISH

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	LEORA	5-13-93
CHECKED		
ISSUED		

CAD SEED FILE NO.

QSC AUDIO PRODUCTS, INC.
COSTA MESA, CALIFORNIA

SCHEMATIC,
AC PCB EX/MXa 2 SP.

SIZE	FSCM NO.	DWG NO.	REV
C		SH-004103-00	C

SCALE	CAD FILE NO.	SHEET
NONE	SH4103C1.FCD	1 OF 1

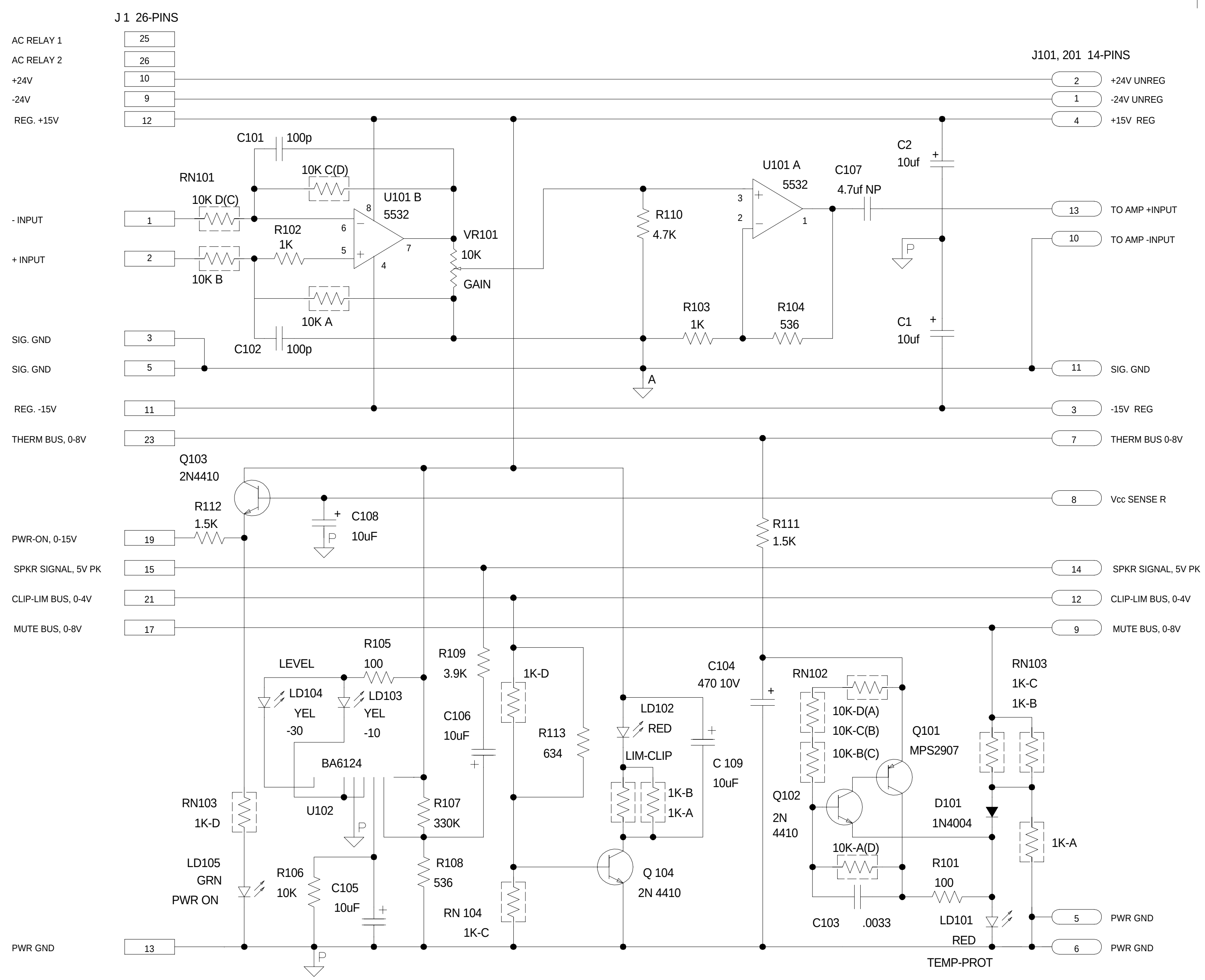
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SCHEMATIC, EX-SERIES DISPLAY BOARD.

PC-004001-00, REV A.

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	PROD REL PER ECO 756	6-19-90	
	B	REVISED PER ECO 1603 WR	9-29-92	



NOTES

1. ALL RESISTORS 1/4 WATT UNLESS SPECIFIED.
2. ALL CAPACITORS 25V UNLESS SPECIFIED.
3. CH 2 RESISTOR NETWORK SECTIONS ( ) WHEN DIFFERENT.
4. CH 1 COMPONENTS NUMBERED 101-199
5. CH 2 COMPONENTS NUMBERED 201-299.
6. PARTS IN COMMON TO BOTH CHANNELS NUMBERED 1-99.
7. U102, 202 ROHM BA6124 OR SAMSUNG KA2284/85
8. LD 101, 102, HIGH-EFFICIENCY RED LED.
9. LD 103, 104, HIGH-EFFICIENCY YELLOW LED.
10. LD 105, HIGH-EFFICIENCY GREEN LED.

CH 2 PINS

- INPUT	4
+ INPUT	6
SIG. GND	7
SIG. GND	8
THERM BUS, 0-8V	24
PWR-ON, 0-15V	19
SPKR SIGNAL, 5V PK	16
CLIP-LIM BUS, 0-4V	22
MUTE BUS, 0-8V	18
PWR GND	14

PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:

FRACTIONS +/- DECIMALS .XX +/- .XXX +/- ANGLES +/- °

MATERIAL

FINISH

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS DATE

DRAWN PAT QUILTER 6-19-90

CHECKED

ISSUED

FCAD: 004001SH

QSC AUDIO PRODUCTS
COSTA MESA, CALIFORNIA

SCHEMATIC DIAGRAM
EX-SERIES DISPLAY BOARD

SIZE C FSCM NO. DWG NO. SH-004001-00 B REV

SCALE SH4001B1.FDC SHEET 1 OF 1

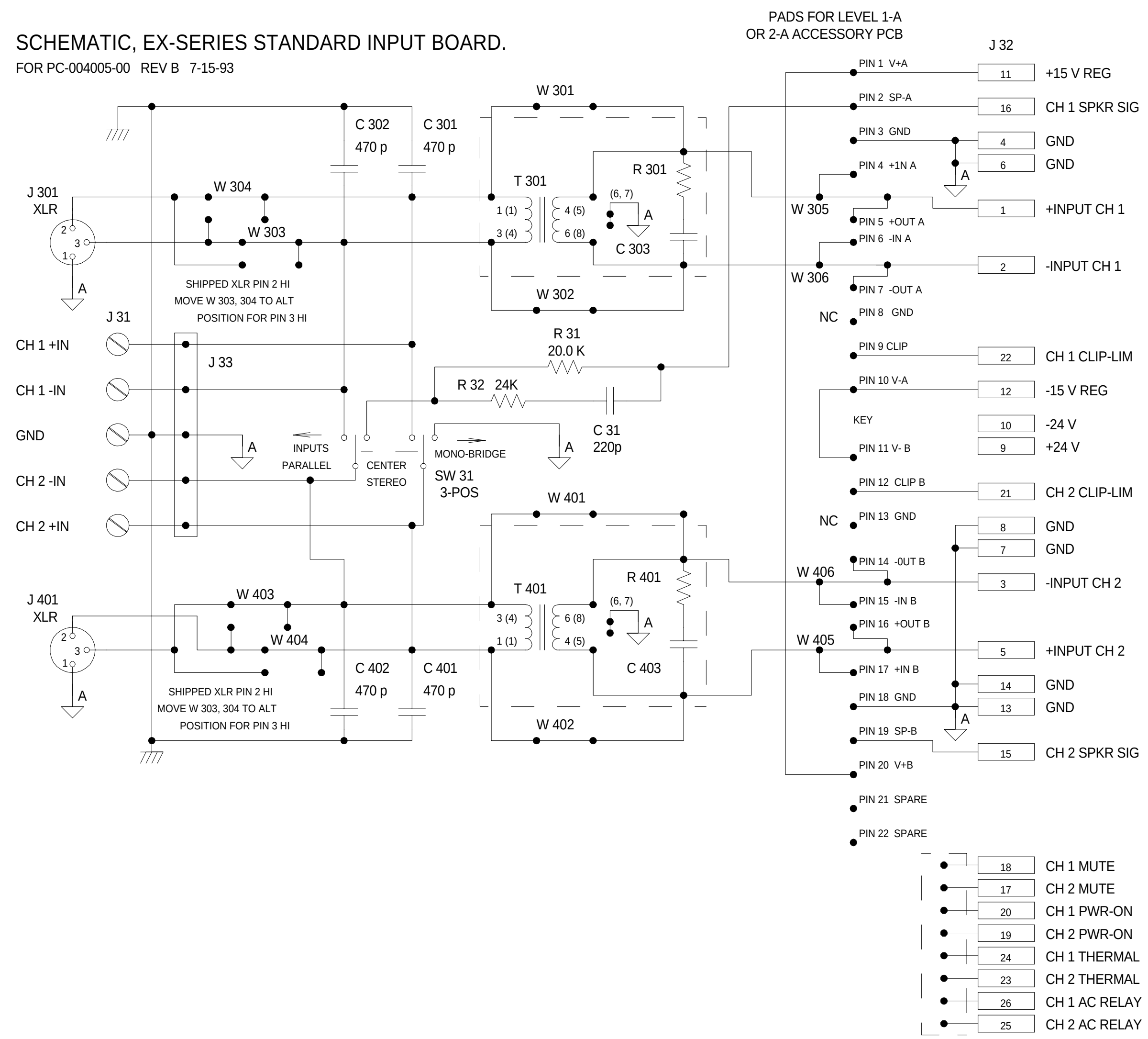
DWG NO. SH-004001-00 1 B

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REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	PROD REL PER ECO 756		
	B	CHANGE VALUE R31, WAS 21 K SEE ECO 1097	6-10-91	SGM
	C	REVISED FOR MIN-SLOT, BR-SW SEE ECO 1297 BY PHQ	1-24-92	SGM
	D	REVISE PER ECO 1916		

SCHEMATIC, EX-SERIES STANDARD INPUT BOARD.

FOR PC-004005-00 REV B 7-15-93



NOTES, ALL REV LEVELS

1. ALL RESISTORS 1/4W, 5%.
2. ALL CAPACITORS 100V
3. J 32, 26-PIN CONNECTOR, TO J 1 ON FRONT DISPLAY BOARD PC-004001-00.
4. PARTS FOR CH 1 NUMBERED 301-399.
5. PARTS FOR CH 2 NUMBERED 401-499.
6. PARTS IN COMMON TO BOTH CHANNELS NUMBERED 31-49.
7. BOARD SHIPPED WITH W 301-304, W 401-404 MOUNTED AS SHOWN.
8. PARTS WITHIN DOTTED OUTLINE FOR USER MODIFICATION. SEE MANUAL.

NOTES, REV LEVELS A-B

1. THE FIRST YEAR OF PRODUCTION EX AMPLIFIERS SHIPPED WITH PC-004002-00 REV A OR B
2. FOR PC-004005-00 REV A, ADDED PADS 1-20 FOR LEVEL 1-A, 2-A INPUT ACCESSORY PCB
3. ADDED J33, 5-PIN INPUT EXTENDER HEADER AND W305,306,405 & 406.
4. NO CHANGE IN PINOUT OF J32, PINS 1-26
5. SW-31 WAS REVISED ON PC-004005-00 REV A, BUT WILL NOT AFFECT FUNCTION OF UPPER SLOT PCB.

NOTES: UNLESS OTHERWISE SPECIFIED

PC-004005-00	EX/MPA SERIES
NEXT ASSY	USED ON
APPLICATION	

PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. DIMENSIONS PER ANSI Y14.5-1982

TOLERANCES ARE: DECIMALS .XX ± DECIMALS .XXX ± ANGLES ±

DEBURR EDGES .XXX R MAX

MATERIAL

FINISH

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS	DATE
DRAWN PAT QUILTER	6-18-90
CHECKED	
ISSUED	
CAD SEED FILE NO. SH40002C1.FCD	

QSC AUDIO PRODUCTS, INC.

COSTA MESA, CALIFORNIA

SCHEMATIC DIAGRAM
EX SERIES STANDARD,
INPUT BOARD

SIZE C | FSCM NO. | DWG NO. SH-004002-00 | REV D

SCALE NONE | CAD FILE NO. SH4002D1.FCD | SHEET 1 OF 1